Bacterial Skin Infect_

(1-) NL Skin Flora:

Class	Organism	location on Body
Aerobic Cocci (G+ve Cocci)	Staph Epidermidis " Hominis " Luteus, Micrococcus	All body sites specially (intertrigenous)
Aerobic Coryneform (G+ve Cocci)	Corynebacterium minutissimum (Erythrasma) " Xerosis	Intertrigenous
Anaerobic Coryneform (i.e rod-shaped)	Propionibacterium → Acnes, Avidum, granulosum	Sebaceous Glands & Follicles.
G-ve	Acenitobacter spp	Intertrigenous
Yeast	Pityrosporum ← ovale, orbiculare (Malassezia) (Normal Commensal Yeast (skin flora) Lipophilic)	skin rich in sebaceous glands (scalp, upper < chest back)

NB Staph aureus: Not member of Resident flora but it may be found in:

- Ant. Nares → 30%
- Perineum → 20%
- Axillae & Toe Web → 10%
- Atopic skin → 90%

} of population

recurrent Polls (infection) Abscess

NB Colonization

(2) Bacterial skin infection includes:

(A) Gram +Ve:

- Staph. aureus — exacerbate ATOPY
- Strept. Pyogenes — exacerbate Psoriasis
- Corynebacteria
- Others:
  - Clostridial inf.
  - Bacillus anthracis
  - Bacillus cereus
  - Corynebacterium diphtheriae
  - Erysipelothrix Rhusiopathiae → Erysipeloid

(B) G-Ve:

- Pseudomonas Aeruginosa
- Neisseria Meningitidis
- Bartonella → Cat scratch dis / Angiomatosis / Bartonellosis.
- Brucella
- Burkholderia
- Malakoplakia → any (HL)
- Salmonella
- Klebsiella
- Francisella
- Yersinia pestis.
- Haemophilus influenzae
- Streptobacillus moniliformis
- Anaplasmosis & Ehrlichiosis

(C) Spirochaetes: → T. pallidum

- ✓ Borrelia Burgdorferi — any
- Endemic (non Venereal) Treponematoses → Yaws / Pinta

(D) Bacteria previously classified as fungi:

- ✓ Actinomycosis
- ✓ Nocardiosis → Actinomycetes — CIP. · Mycetoma

Diseases Caused by Staph aureus

1- Direct infection: (Tend to invade appendages):

- Impetigo (Non bullous) (by swap تلامس Staph aureus)
- Ecthyma (±)
- superficial folliculitis ← فيه HF جرثومة
- Sycosis Vulgaris
- Furuncle (Boil)
- Carbuncle
- Abscess
- Pyomyositis. (بيوميوسايتس)

2- 2ry infection of: ulcers, Burns, Eczema

3- Toxins ← mediated ← by swap → (no staph present)

- Bullous impetigo
- SSSS
- TSS ← (Toxic Shock syndr)
- Staph. Scarlatina

Granulom

4. Botryomycosis (granulomatous staph. inf.)
5- Pyoderma Vegetans.

6- dis. influenced or provoked by it, e.g (AD) ← (ATOPIC Dermatitis)

Impetigo

Def Staph &/or strept inf. of superficial Epid.

A Etiology:

- Bullous Impetigo → staph. (it represent localized form of SSSS)
- Non Bullous (Imp Contagiosa) → staph & ± strept. (staph > strept)

NB:
- the 1ry pathogen in both types is staph. & less commonly strept.
- Recently 2005: (in Non Bullous): staph
  - developed countries → most prevalent in both types
  - developing " → prevelants of S. Pyogenes.
- most infect^ start as strept → Later replaced by staph. (staph. ± Produce Toxins that kill strept) (So explain why staph always isolated)

staph
1, 2
Impetigo

	Non Bullous (Crusted) (Contagiosum)	Bullous Impetigo (Circinate)
Incid	. more common (70% cases)	. less common
Age	Children.	. Neonatal
Site	. Any site : Common : Face (Perioral, Perinasal) Limbs, scalp (Except) Palms & soles.	. Any site : Common: Face . Including: Palms & Soles.
Path	. Erythem. macule → Veside → Pustules → rupture → honey-colored yellow Crust (Crusted Impetigo)	. small vesicle → superficial flaccid Bullae (circinate) rupture → Collarette scales (But No Crust & No surrounding Erythm.)
C/F	. Mild L.N & systemic manif.	. No L-N or systemic manif. but ± Weakness, diarrhoea & fever
H/P	1- Subcorneal blisters 2- Few acantholytic cells 3- st. malpighii → spongiosis & Neut. 4- +ve Bact. in lesions. (Staph & strept) 5- upper dermis: intense N. &	1- sub. st. granulosum blister Filled ē Eos. 2. Acantholytic cells 3- upper dermis (PMNL) [In SSSS → Free] 4- No Bact. in lesions

Staph

Complications

• Non Bullous

- Acute Post Streptococcal GN (APSG):
  - (≈5%) of Cases of non bullous Impetigo Caused by Strept. pyogenes (GABHS)
  - Serotypes: 1, 4, 12, 25 & 49
  - after Latent period (3 Ws) (in Sore throat Latency is 10 ds)
  - Risk: is (not) altered by antibiotic
  - [child → 6y]

• Bullous

- In Immuno Compromised Patients: it ± → SSSS.

- ⊙ Usually Age < 6ys
- ⊙ Prognosis:
  - Excellent: in children
  - Bad: in Adults.

- NB: Impetigo (don't) Cause Rheumatic Fever

• DD:

Bullous

- Bullous papular urticaria
- HSV
- Thermal burns
- Bullous diseases.

Non Bullous

- Insect bites
- Eczema
- HSV
- Varicella
- Candida.

• Treatment:

① Crust Removing By: Wet dressing application H_2O_2 or olive Oil

② Antibiotic.

Topical

Fusidin / Mupirocin

① ...

Indications:

- a. Healthy Patients.
- b. Limited dis
- c. Superficial lesions
- d. No systemic manifs or L.N

Systemic

- Indicated if:
  1. Severe dis
  2. deep impetigo & immuno compromized
  3. systemic manifs or L.N
  4. scalp impetigo

Some NBs on Impetigo:

1. Mild dis. in healthy patient without systemic manifs. → Treat ē **Topical only** (Equal or better than systemic)

2. (أشهرها) **Types of Impetigo:** (6)
   - Bullous
   - Non Bullous (Imp. Contagiosa)
   - Circinate
   - Crusted
   - Common: when infectⁿ occurs in preexisting wounds
   - Ecthyma

> (NB)
> 1. Cerxim tab
> 2. Cefumax – no tab – Susp. & Vial.
> 3. Cefuroxime
>   - Zinnat tab: 125 (Susp.), 250, 500
>   - Zinnat inj.: 250, 750, 1500

3. **lines of Rx:**

Uncomplicated → mild dis., Healthy pt, No systemic manifs.
- 1st line → **Topicals**
  - Fucidin
  - Mupiracin
- 2nd line → **Oral**
  - Penicillins (Beta lactamase resistant)
  - Cephalosporins (1st or 2nd gen.)
  - Macrolide

> هام
> لا تستخدم فوق crust
> ولكن بعد ازالة [illegible]

Complicated (IV)
- 1st line
  - (3rd Gn) Ceftriaxone (IV)
    - Rocephin < 500 / 1000
    - Ceftriaxon
- 2nd line
  - (2nd Gn) Cefuroxime
  - Ampicillin / Sulbactam
    - (Unasyn) 375 tab
    - Unictam Vial < 375 / 750 / 1500; tab: 375

When Dealing ē impetigo always put in your mind MRSA..!!

NB: Clinical Tricks: Rx of impetigo
1. Soak crusted areas
   كمادات ماء + خل توضع عليه ١٠ دقائق
   كذا مرة يوميا ثم → Remove crust
2. Fucidin
3. Systemic

Ecthyma

يصل لـ epidermis & upper dermis

Def → deep ulcerating form of non Bullous impetigo; Thats caused by the same Pathogens of impetigo but infection & inflammation extend to the upper dermis → Thick crust & ulcer → scarring. (whole Epid + upper Dermis).

deep impetigo → scar

يخلي ندوب في الـ dermis

- Organism: (Strept) Common > Staph
- C.I.P: intial Vesicle or Vesiculo pustules → Enlarge →
  - Hgic crust → Separate → punched out ulcer & purulent Necrotic base → slow healing → scarring.
  - Site: Commonest at shin & dorsum of feet.
- Risk factors:
  1. Young age (children)
  2. old age
  3. Immuno suppression
  4. poor hygiene.
  5. Neglected impetigo
  6. minor Trauma (Insect, scratching & dermatitis)
  7. High Humidity & temp.

NB Strept ±
- initiate in the lesion
- dry inf. pre existing around.

- Complications:
  - Staph. Contamination.
  - Bacteremia.
  - Cellulitis
  - Osteomyelitis.

- DD
  - Ecthyma gangrenosum
  - Vasculitic ulcers.

- Treatment
  - Systemic ATB: as impetigo
  - Wash & Soap then use → Fucidin or Mupiracin
  - Improve Hygiene:
    1. غسيل يومياً بالماء والصابون.
    2. تغيير الملابس والفراش.
    3. استخدام ملابس وفراش قطنية.
    4. Avoidance of Trauma.

4 Staph inf. related to Hair follicles

1- superficial pustular Folliculitis (Follicular impetigo of Bokhart).
   . infect of Follicular Ostia ← opening.

2. SYCosis Vulgaris = (SYCosis barbae) : infection of (whole depth of Follicle) (of Beard & Moustach.)

3. Furuncles = Boils :
   . Staph. inf. of whole (depth of the Follicles) + (surrounding dermis).

4. Carbuncle: . Contiguous collection of inflammed Follicles (grouping of ≥ 2 furuncles)
   . inf. extend to deep S.C.T → more severe Sympt.

NB (1) Abscess : Can occur any where (but) Furuncle affect the hair follicles.

(2.) All furuncles are d.t staph: (but) anogenital recurrent Furuncle, G-ve may be involved.

CIP

1- Bokhart impetigo : dome shapped pustule at the orifice of the follicle.

2- SYCosis barbae: Follicular papules & pustules (that) may remain discrete or coalesce into plaques.
   ← Affect beard & Moustach of adult males.

   NB: Lupoid SYCosis: follicles destroyed by scarring ē pustules fringe the advancing margin around pink atrophic scar.

lupus like.

3- Furunculosis : Predisposing factors :

1. ↓ Immunity e.g DM & HIV
2. Itchy Skin e.g scabies & miliaria
3. Alcoholism
4. Obesity

- Tender red Nodule → Enlarges → discharge pus → scarring ← deep abscess

4. Carbuncle: swollen, painful, suppurating area (plaque) discharging pus from several openings or sinuses ; commonest on Nape of diabetics

NB. For furuncle & carbuncle at first → drainage → then, Antibiotics

- Any site can be affected by furuncle & carbuncle but the commonest are:
  - Face & Nape of Neck
  - Chest
  - back
  - axillae &
  - Buttocks.

Chr. or Recurrent Furunclosis

(حريفة بيجي بعد عامل وخرايج مستمرة)

أدور على

قاعدة

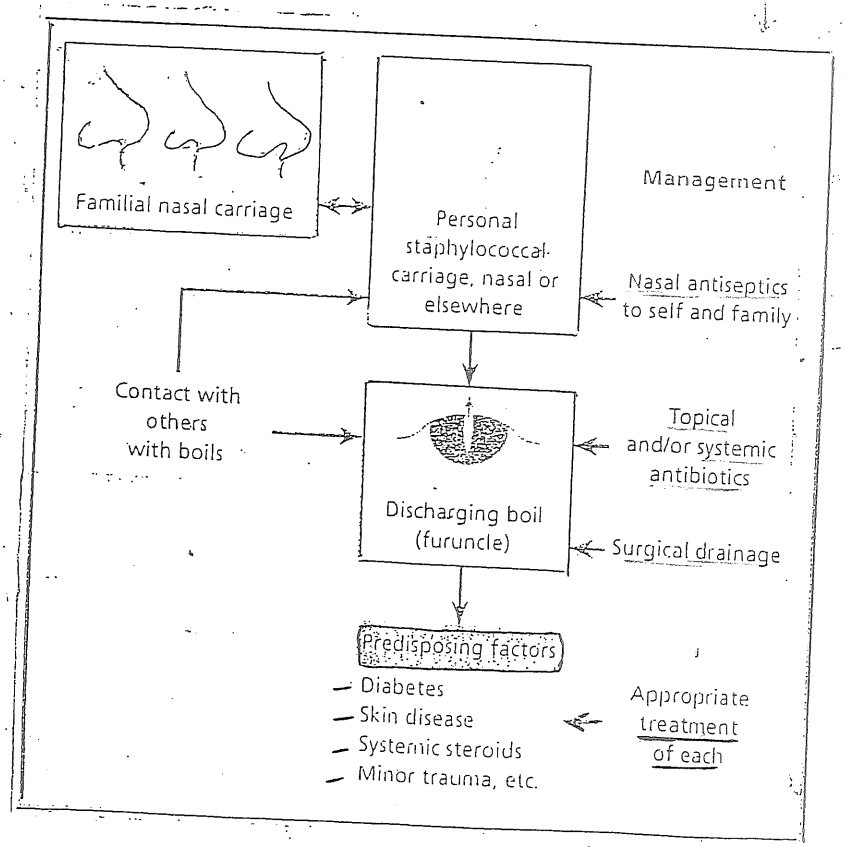
When you See this Case Put in Your mind 3 points.

① Ask about predisposing Factors PPF

- Local (impaired skin integrity)
  - pressure
  - Friction
  - Hyperhidrosis
  - Dermatitis
  - Dermatophytes
  - Shaving
- Systemic
  - DM
  - HIV
  - malnutrition
  - Blood dyscriasis
  - * Isotretinoin & Etretinate

② Nasal swab From the patient & His family For: Colonized Staph. aureus. (30% of Population)

③ Consider MRSA



② Nasal swab

③ MRSA and ATB

① PPF

Treatment — (A) (B)

(A) Decolonization measures

(For: Nose, axillae, Perineum)

كلورهيكسيدين

١. يتم استعمال مطهر السبتافلون يوميا لكل الجسم او Bleach. Bath (as in AD)
وخصوصا أماكن الـ (axillae, groin, Hands)

٢. غسل الأيدي باستمرار. (باستعمال بكورب أو السبتافلون)

٣. غسل الملابس والمفارش باستمرار.

٤. دهان «فيوسيدين» مرتين يوميا حول فتحتي الأنف وشرج [or Mupirocin] الأظفار وكذلك في Flexures

٥.

(B) Systemic Antibiotics For Eradication of staph.

For

MSSA

Rifampacin (2 Caps/d) 300 mg
+
Flumox : (2 Caps/d)

↓

لمدة ١٠ أيام

MRSA

(i). TMP + SMX
(ii). Minocyclin or Doxy.
(iii). Clindamycin

كبسولة (١٠) يوميا لمدة ٣ شهور

↓ if failed

IV Vancomycin → يعطى ويديرعلى مدار ساعة

S.E: ① Pain
② thrombophlebitis
③ Red Man Synd:
- Flushing & erythematous rash appearing 4-10 mins after start of completion of Infusion.

سببه Most cell degranulat-

after ④ LABD

Methicillin Resistant Staph aureus (MRSA)

Def → Strain of staph aureus that's resistant to Large Group of Beta-lactamase resistant antibiotics as penicillins & Cephalosporins

(Methicillin, Oxacillin, Nafcillin)

AET: presence of "mecA" gene in the bacteria → alteration of site at ω Methicillin binds to kill the organism.

(PBP2a)

Infection caused by MRSA:

- The same inf. as other staph because the organism itself is not any more virulent or infectious.
- MRSA can colonise body sites as ! usually staph aout causing sickness. (see staph aureus colonization)

So the problem with MRSA is d.t Anti'biotic resistance (Not) Virulence.

Types of MRSA

or Hospital Acquired

(1) Health care ass. MRSA (HA-MRSA) = Nosocomial Transmission among Population

(2) Community ass. MRSA (CA-MRSA) (Less Common)

(ss or equired)

Clinical presentation of CA-MRSA (As staph)

- Furunculosis (most Common) ± → Abscess or cellulitis
- impetigo
- SSSS

Life threatening e.g. Bacteremia, Septic shock, TSS: (less Common)

Diagnosis of MRSA:

at first (suspect) MRSA if:

1. prevelance of MRSA in a given community
2. possibility of Nosocomial inf.
3. Severe inf.

↓ do

Culture & sensitivity.

Treatment of MRSA:

1. Decolonizat° Measures → See recurrent furunculosis. (also use of fluoroquinolones as they help colonizat°).

2. Antibiotics:

HA-MRSA

- Sulfa (Septrin) → Drug eruption.
- Tetracyclines → (CA-MRSA are sensitive but HA-MRSA are resistant)
- Clindamycin (Dalacin)

- Vancomycin (CA MRSA ++ / HA-MRSA ±)
- linezolide & Teicoplanin [but some strains are resistant]
- Daptomycin
- Quino- & Dalfopristin → (Synercid)
- Tigecycline

Empiric

NB. IV + Vancomycin should be considered in:

1. - severe, Life threatening inf. in areas where MRSA is present
2. - pts. ē History of MRSA Colonizat°
3. - IV drug users.

* Beta-lactamase resistant Antibiotics ??

either →
- Methicillin, dicloxacillin, Cloxacillin, ..
- Amoxicillin + B-lactamase inhibitor: clavulonic acid (Amox-Clav)
- Ampicillin + " " : sulbactam (Unicitam or Unasyn)

dose 50 mg/kg/day.

Folliculitis

def → presence of inflammatory cells within walls & Ostia of Hair follicles → Follicular based Pustules & papules

NB: perifolliculitis: presence of inflammatory cells in the perifollicular tissue & reticular dermis.

Predisposing factors

- frequent shaving
- Immunosuppression
- preexisting dermatoses
- Long term antibiotic use
- occlusive clothing or dressings
- Hot Humid conditions
- DM / obesity

Clinical presentation:

- Itchy (less commonly painful) follicular pustules pierced centrally by hair.
- If No Pustules: The follicular papules or Collarette of scales are Clue for D.

3 Types of Folliculitis.

Ni Itchy → 1- **Superficial** multiple small papules & pustules on an Erythematous base pierced centrally by hair (although hair may not be visualized)

Ni Pain → 2- **Deep** Erythematous, often Fluctuating → Nodules → more pain → Suppurative drainage & ± Scarring & Hair loss.

3- **Patterned folliculitis** on areas of Shaving or occlusion

Site: any hairy area can be affected but commonest.

- Face
- Scalp
- Thighs
- Axillae
- Inguinal

(usually on areas of occlusion &/or Terminal Hair)

Causes of Folliculitis

① Infection:

- Bacterial
  - G+Ve (Staph)
    - Superficial: Impetigo, Bockhart
    - Deep: Sycosis barbae, Furunculosis, Carbuncles
  - G-Ve (Pseudom, Klebs, proteus)
    1. G-ve folliculitis
    2. Hot Tub Folliculitis
- Viral
  - HSV
  - VZV
  - Molluscum
  - HIV
- Fungal
  - Dermatophyte → Superficial: (T. barbae)
    - Farmer
    - Onside of face (Submaxillary or chin)
    - Deep: Kerion Like (see T. barbae).
    - Majocchi granuloma (see fungal inf.)
  - Candida → Candidal Folliculitis (see candida).
  - Pityrosporum → Pityrosporum folliculitis (see Fungal inf.)
- Parasitic (Mites) → Demodex Folliculitis (see parasitic)
- Others: (Acrodermatitis Enteropathica)

eosinophilic folliculitis

② Irritation

- Waxing & Threading.
- Electrolysis
- Pseudofolliculitis barbae

③ Contact reaction:

- Occlusion by:
  - Moisturizers
  - Adhesive plasters.

- Topicals:
  - Coal tar
  - Cutting oils
  - Cs (overuse & perioral dermatitis*)

4. Inflammatory skin dis (deep seated sterile folliculitis that ± scarring)
   - Neutrophil ass. Irr. Scarring Alopecia
     - F. decalvans
     - Dissecting Cellulitis
     - Erosive pustular dermatosis
     - A. Keloidalis
   - LP ← Lichen planus
   - DLE ← Discoid L.E
   - Folliculitis decalvans

5. Immunosuppression
   - * Eosinophilic folliculitis ← (HIV ass.)
     - severely itchy
     - tt by HIV drugs ← Antiviral therapy of HIV (HAART)

6. Acne / Variants
   - Acne Vulgaris
   - Nodulocystic Acne
   - Steriod Acne
   - Rosacea
   - Propionibact. folliculitis
   - Acne Necrotica
   - Acne Necrotica Miliaris
   - Chloracne
   - Acne Keloidalis Nuchae
   - Hidradenitis suppurativa ← (ALG VP) ← ♂

7. Idiopathic

Another Classificat^ for folliculitis

- Superficial
  - Acute
    - follicular impetigo of Bokhart
    - G-Ve folliculitis
  - Chronic
    - AV
    - Acne Necrotica Miliaris
    - Chr. folliculitis of the legs
- Deep
  - Acute
    - Furuncle
    - Carbuncle
  - Chr.
    - Sycosis barba
    - Pseudofollic barbae Necrotica
    - A. Keloidalis

3. Eosinophilic Folliculitis: (3 Varieties) (سؤال امتحان) Q 19

(A) Ofuji dis: (Eosinophilic Pusttular folliculitis):-

- 30 Ys, ♂ Japanese (M:F = 5:1)
- discrete papules & pustules → Circinate arrangement
  → peripheral rim of pustules ē Central clearing at Acne prone sites.-

1st line: Endomethacin

2nd ++: .UVB .Dapsone .Colchicine .Cs

(B) Immunosuppression Ass: (HIV ♂ pt ē CD4 <300) (+++)

Tm ass Leuk, Lymph. HIV ass.

- Persistent
- No annular pattern
- Face, scalp & Trunk ("Very itchy")
- +++ → HARRT if failed → Antibiot, Antihistamines & UVB

(C) Infantile:

(++) ← .Self Limiting .symptomatic

- 1st 24 hrs resolve First few ws.
- ♂ infant
- May be cyclic Course Lasts (ms-Ys)
- at scalp & Eye brow → ass ē (Crusting) ← مختلف كل نوع بالتفصيل
- ± ass ē peripheral Eosinophilia.

Invs for a case of Folliculitis:

1- for Bact: Gram stain; detection of Nasal Carriers (see recurrent furunculosis)

2) for Fungal: KOH ex.

3) Viral: Culture.

4) Punch Biopsy: for other Cases e.g eosinophilic folliculitis & Lp.

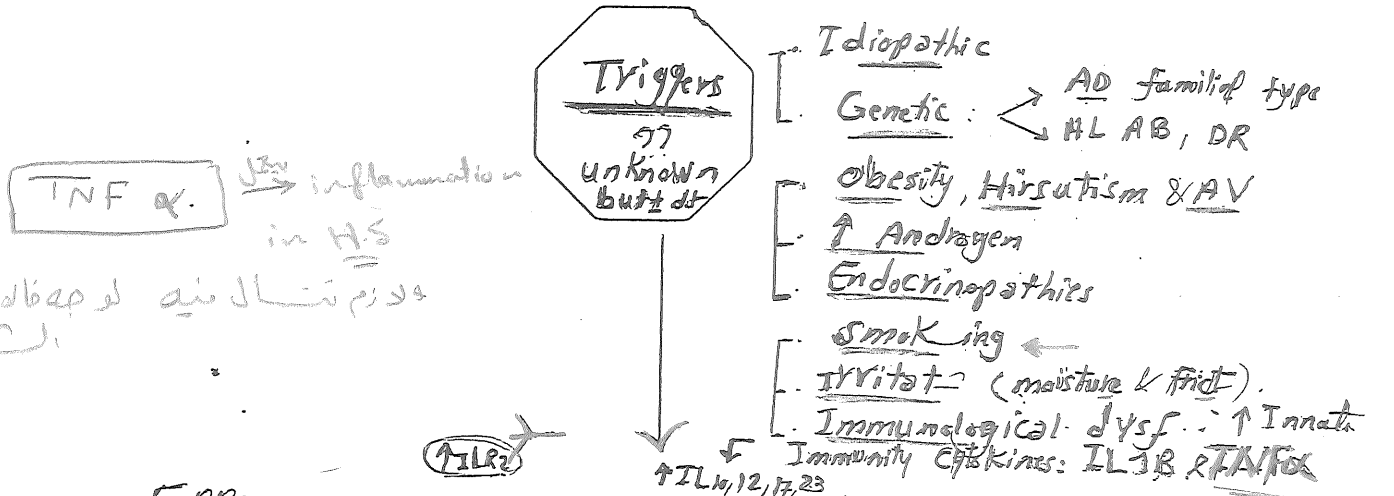
- Treatment → according to the Cause.

Hidradenitis Suppurativa

(Acne Inversa = Apocrinitis)

Def Chr., recurrent inflammatory skin disorder ch^ By recurrent abscess format^ primarily ē in folded areas of skin that contains both Terminal hairs & Apocrine glands.

Etiopathagenesis: follicular occlusion disorder ch^By:



Follicular Hyperkeratosis → Follicular occlusion → follicular rupture → release of { sebum, Keratin, Bact. & hair } into surrounding dermis → inflammator process that engulf the apocrine gland → rupture of overlying skin ē { Fibrosis & sinus format^ → then scar ; → staph & G-ve Colonizat^.

- **NB:** 1ry apocrinitis is reported on 5% of cases so it's Not 'apocrinitis disorder but follicular epith^ disorder

Epidemiology:
- **Age:** Puberty & Post pubertal (11-50ys) [av. = 23]
- **Sex:** F > M (3:1) but Perianal is M > F

Chronic recurrent Abcess like > 5 times/month

CIP :. starts as small, red, Tender, S.C Nodule

→ suppurat → fluctuat → Rupture through skin → Scarring

ē format of sinus Tract → recurrence (≥5 Abscesses/m)

. at ← axillae / groin / Intermammary.

DNNZ → . Distinct Clinical staging have been defined For the Condion: (Hurley's Classificat)

- Isolated = . Stage I : → isolated abscess (Solitary or Multiple) each with Scar or Sinus
- Recurrent sinus = . Stage II : → Recurrent abscesses (" " ") Widely Separated + Sinus Tract formst with scar
- diffuse or Broad = . Stage III : → diffuse or broad involvement ē Multiple interconnected Sinus Tracts & abcesses

NB: Multiple Black Head Comedones also seen (Bihead & Trihead)

. Complicat .
- ↑ Metabolic Synd Incid
- Anemia
- 2ry Amyloidosis
- Lymphoedema
- Fistula to ← Urethra / UB / Rectum
- Contractive & limb limitat
- Hypoproteinemia
- NS - Arthropathy
- SCC

JAAD 2014

Nephrotic syndrome

. **Pathology** :
- heavy mixed infilt. in lower dermis & S.C.T
- Sinus tracts ē inflamm. Cells & Keratin debris.
- G.T & FB Giant Cells.
- in chr. cases → Extensive fibrosis + destruct of pilosb. follicles & sweat glands.

DD:

1. Staph. Furunculosis & Abcess : → pointed or ulcerate through the skin; → No sinus tract format; Not bilateral.

GI

2. Crohn's, Granuloma inguinale, Mycetoma & TB (Cutaneous)

3. Elephantiasis Nostra Verrucosa : (2ry) to Re current Strept Lymphangitis → may distort ! ext. Genitalia.

Medical / Surgical > **Treatment** (مريض جداً) (أهم صح)

1- General Measures:

- stop smoking → يحسن الحالة كويس
- ↓ W.t (if over w.t) — أقلل
- ↓ frict. & moisture (loose undergarments, absorbent Powder, antiseptics, Alum. chloride).

2- Topical tt: ± erythromycin

- **Clindamycin:** Chr. use (↓ staph carriage & 2ry inf.)
- **ILCS:** in early inflammatory lesions
- **Others:**
  - Antiseptic soaps.
  - H_2O_2 ← Hydrogen Peroxide
  - Alum. chloride ← تقلل العرق
- **Mupiracin:** to eradicate staph carriers.

3- Systemic tt:

(① Systemic (Antibiot, Cs) ② Retinoid ③ Antiand. ④ others Biologics)

- **Cs:** 60-80 ms (dramatic response that Flare on discontinuat.)
- Cyproterone acetate (very large doses needed so ?? safety)
- CYP. + EE (Diane) → better
- Isotretinoin (less effective) N.B 10 mg / day (low dose شي زي علاج Acne)
- Acitretin (أحسن) (Effective) ← بس بيسبب عقم / هيبقى مشكلة للي عايز يخلف
- "Doxy + Flagyl" ← جرعة
- Finasteride (5 mg / d for 3 ms)
- systemic antibiotics → (according to culture & sensitivity) as anti-inflammatory
- others (N.B مهم):
  - Cyclosporine
  - TNFα -- (Infliximab)
  - Botox
  - Humira (Adalimumab) (مهم) ← FDA (علاج دائم)

4- Surgical tt: (Excision Not incision)

- Surgical Excision of affected area then < 1ry Closure or graft (الأفضل)
- surgical deroofing (تقشير) ← (effective, minimal invasion + tissue preserving + office procedure)
- CO_2 laser stripping + 2ry intention healing ← بس هيأخد فترة طويلة علشان يخف

(NB) Avoid incision & drainage → ± scarring & sinus format.

(مذاكرة كتير) - Anakinra - Infliximab - Etanercept

FDA العلاج الوحيد اللي ((Adalimumab))

Synds with HS

- Idiopathic Follicular occlusion on

① Follicular occlusion Triad:

axillae → 1. Hidradenitis suppurativa.
Sebaceous gland & Face → 2- Acne Conglobata
Scalp → 3- Dissecting Cellulitis of ! Scalp.

- occlusion Triad & Tetrad
- PASH & PAPASH.

② Follicular occlusion Tetrad. ③ PASH (PG, Acne, HS) ④ PAPASH (= PAPA)

- Pyog. Arthritis
- Pyod. Gang
- Acne
- Supp Hidradenitis

Follicular occlusion tetrad:

as triad + Pilonidal sinus.

(Pilo = pilus = hair / Nidal = Nest)

- def. . Chr. Condition ch. By sinus Tract at Sacrococcygeal region (at base of spine bet clefts of buttocks)
- the cavity of ! sinus is Filled ē Nests of Hair ± infected → Abscess.
- Sometimes a cyst called pilonidal Cyst is present.

- Etiopathogenesis ?? may be dt:

1- Genetic → genetically prone to Follicular occlusion (Triad or Tetrad).

2- Some borne ē small holes or pits at this site ŵ is actually enlarged Hair follicle → Frict^ & moist^ → hair shaft (Pokes) through wall of follicle → inflammatory FB react^.

* 3- Neighbouring Hairs or free hairs from other parts of body collect in ! pit & invade the small opening created by ! distorted follicle.

4. Skin & perineal bact. are superadded.

- (Risky): _

→ Q. What are Types of Hidradenitis ?? **HL**

1. Apocrine Hidradenitis
2. Neutrophilic Eccrine Hidradenitis
3. Recurrent Palmoplanter Hidradenitis:

تصيب الأطفال وإنما الغين في بطن القدم وغالباً يشكو من تيبس مع
وجع وعدم القدرة على المشي

- Lesion: EN like Painful S.C Nodules at sole
- Etiology → unknown but ± (Pseudomonas)
- Recurrence & predisposit:
  - Wet shoes
  - Cold
  - damp Wheather
- ttt: → (NSAIDs)

Rheumatoid Neutrophilic Dermatosis **HL**

- Papules, Nodules & plaques sometimes c̄ Annular Morphology affecting patient c̄ Active (R.A) & (↑ R. Factor)
- Usually at face & Extremities.
- ttt: spont resolut. or by ttt of R.A

(320 للتيبر (بولونيا) . **SAPHO Synd** (one of (Sero -Ve) spondylo-arthropathy)

Age
children & adults.

- Synovitis - ant. chest joints & axial skeleton.
- Acne
- Pustulosis
- Hyperostosis
- Osteitis

Infections Caused by Staph. Exotoxins

- Organism: Staph. aureus (phage gp II, Type 71)
- Toxins: 3 Types:

I. Epidermolytic Toxins (Epidermolysis)

A, B_2D (Exfoliatins)

- Bullous impetigo
- SSSS

II. Enterotoxin B & C.

50% of Non-MTSS (Menestrual Toxic shock synd)

Non-genital ... as source of staph

III. TSST1 (Toxic Shock Synd Toxin)

(PVL) Panton-Valentine leukocidin
- in CAMRS
- ↑ Leukocyte destr. & Necrosis

MTSS
- Non "Scarlatini-form Eruptions (50%)
- (Recurrent) Toxin-Mediated Perineal Erythima

Staphylococcal scalded skin Synd (SSSS)

(?? Reiters)

(Ritters dis & Lyell's disease & pemphigus Neonatorum)

- **Age**:
  - usually: infants & children.
  - rarely: Adults (d-t renal EXCretion of these toxins) EXCept if they have CRF or Immuno supp. → Mortality rate ↑↑
- **Pathogenesis**: (staph. aureus phage gp II (Type 71))
  - Exfoliative Toxins (A, B, D) may
    - Target DsG1
    - Act as Super antigens → ++ T cell cytotoxicity
  - Both → Acantholysis
- CRP ✳ Staph focus ± ← Septic focus
  - Conjunctivitis
  - OM
  - occult Nasopharyngeal inf.
- (1-) General Constitutional manifest (Prodromal Symptoms) (FAHM)
  - Fever
  - irritability
  - Sore throat
  - Rhinorrhoea
  - Severe skin Tenderness = Scalded erythema
- (2-) Tender Erythema: First localized to head & Neck & Flexures → 1-2 days → Generalizat (Erythroderma)
- Bullae (large, flaccid = +ve Nikolsky sign).

N.B: any erythemas taking large area → called → Erythroderma

↓ 3-5 ds

④ Sloughing Desquamat = → raw skin & areas of thin varnish like crust) leaving behind (moist

- facial Edema
- Sad man facies
- perioral crust & Red. furrow

→ Face

level of seperation is or granular cell layer while Basal cell layer is intact so → heal ē out scarring.

⑤ Repithelializat (Healing) ē in 1-2 ws without scarring.

↓

Mortality Rate = MR
- 3% : in children
- 50% : Adults (Healthy)
- 100% : Adults ē underlying dis.

- Complicat :
- Alopecia (TE)
- onycholysis
- RF
- Vocal cord paralysis
- Carpal Tunnel synd.
- Amenorrhoea

NB
- DSG1 Targeted into 2 diseases
  - Pemph. Foliaceous
  - SSSS

- Clinical Varieties :
  1. localized SSSS (Bullous impetigo) → +ve Dermal infilt.
  2. Generalized SSSS → -ve Dermal infilt.
  3. Abortive SSSS (Scarlatiniform) : only shows Erythroderma & desquamation ē out Bullae

- Diagnosis
  1. clinical
  2. staph Isolat from (Focus) :
     - lesion → -ve
     - Eye, Nasopharynx, Feces, skin, Pyogenic inf.
     - Blood : -ve in children but ±ve in adults.
  3. Toxins detect :
     - Frozen sect then ELISA or double Immuno diffusion.

DD (عامتواتر)

1. ~~TEN~~ SJS: اكبر حد
2. Sun burn,
3. drug Erupt^
4. Kawasaki
5. Extensive bullous Impetigo.

(مهم) الامراض اللي فيها ؟

1. Nikolsky sign
2. Tzanck smear

	SJS/TEN	SSSS
AET	usually drug induced	Staph aureus exotoxins
Age	Adults > 40 ys.	infants & young children
Skin:	Areas of sparing present	Generalized
MM	involved (severe)	uninvolved X
Face	Lip & mm redness & oedema	Perioral crusting & fissuring; mild facial swelling & Erosion.
Nikolsky sign	in some areas it is, difficult to Elicit. (±) X	+ve in seemingly uninvolved skin. (++)
Healing	> 14 ds ē scarring	With in 7-14 ds ē or ē out ttt
Path	Dermoepid separat (DEJ); Sparse dermal infilt.	split at granular layer; No dermal inflamm. infilt.
Zanck Smear	* Cuboidal cells ē Large Nuclei (of Lower Epid.) or * Inflammatory cells.	* Elongated Epith cells ē Small Nuclei (upper epith dermis) * No inflammatory cells.
ttt	1. Burn unit 2. IVIG 3. Cs (Controversy)	1. Antibiotics 2. Supportive care
Prognosis	Bad (MR ??)	Good (/MR) ??

ttt

1. Antibiotics (Beta lactamase resistant) for 1 W
2. Emollients.
3. ttt of staph carriers.

"NB"
- Hospitalizat. & IV ttt → For Extensive, Generalized cases
- oral, Home ttt → for mild cases.

Toxic shock Synd (TSS)

- **Def:** Multisystem dis. caused BY St. aureus producing Exotoxins.

- **Types:**

	Menestrual TSS (MTSS)	Non MTSS.
Source of staph	. Vagina of Menestruating Women using high absorbant Tampons	Surgical procedures. Wounds, ulcers. Catheters. IUD
. Incid . M:F	. Was Common at 1980, Now less Common ← (F) only	. more Common Nowadays. . M=F
. Causative Toxins	. TSST1	. TSST1 . Enterotoxins B & C.
MR	5%	12 %

- **Etiopathogenesis:** the Major risk factors is absence of Antibodies against TSST1 → 3 Mechanisms:-

(1) direct toxic effects on Multi-organs.

(2) Impaired Cleatance of Endogenous Endotoxins derived from Gut flora.

(3) Act as super Ag.

Clinical Criteria for D:

- Fever > 38 °C
- Rash: diffuse macular erythema
- Desquamation: after 1-2 wks (Sp. Palmoplanter)
- Hypotension: systolic < 90 mm Hg for Adults (< 5 Percentile for Children)
- involvement of ≥ 3 organs:
  - CNS (disorientation)
  - Renal (↑ Pus, BUN & Creatin.)
  - GIT (Vomiting & diarrhoea).
  - Liver (↑ enzs).
  - Blood (Thrombocytopenia).
  - MM (Hyperemia)
- Lack of evidence of other causes:

(-Ve)
- -ve Serology for: RMSF & leptospirosis
- -ve Culture for: Blood, CSF & throat. (Staph toxins)

NB

- Streptococcal TSS differs from Staph TSS in the following:-

1- rapid progressive
2- More destructive
3- MR 30%.
4- Strept isolation (GA, M strain)

Treatment

Shock M & Antib.

1- Antishock Measures e.g fluid for Hypotension
2. ttt of Source of inf. (remove meshes)
3. Antibiotics (Beta lactamase resistant): antibiotics that eradicate the toxins are preferred e.g rifampicin, clindamycin, Quinolones.
4. If severe shock unresponsive antibiotics → (low dose Cs)

⊙ Diseases Caused by Streptococcus

(Tend to Invade the skin Proper)

1- Direct infection:

- Impetigo (non Bullous)
- Ecthyma
- Cellulitis
- Erysipelas
- ⊙ Intertrigo (NB!)
- Perineal Dermatitis
- Angular Cheilitis
- Blistering distal dactylitis
- Necrotizing Fasciitis
- strept. ulcer

2- Secondary infection of: ulcers, Burns, Eczema

3- Toxins:-

- Scarlet fever (Erythrogenic Toxin A, B, C)
- Toxic shock-like Synd. (Exotoxin A, B) ← more severe than TSS of staph

4- Reaction to bacterial Ag:

- EN ← Erythema Nodosum
- Vasculitis (Henoch-Schenolein purpura)
- Rheumat. fever (EMR)

5- Diseases Influenced or provoked by it:

- Psoriasis (Guttate).

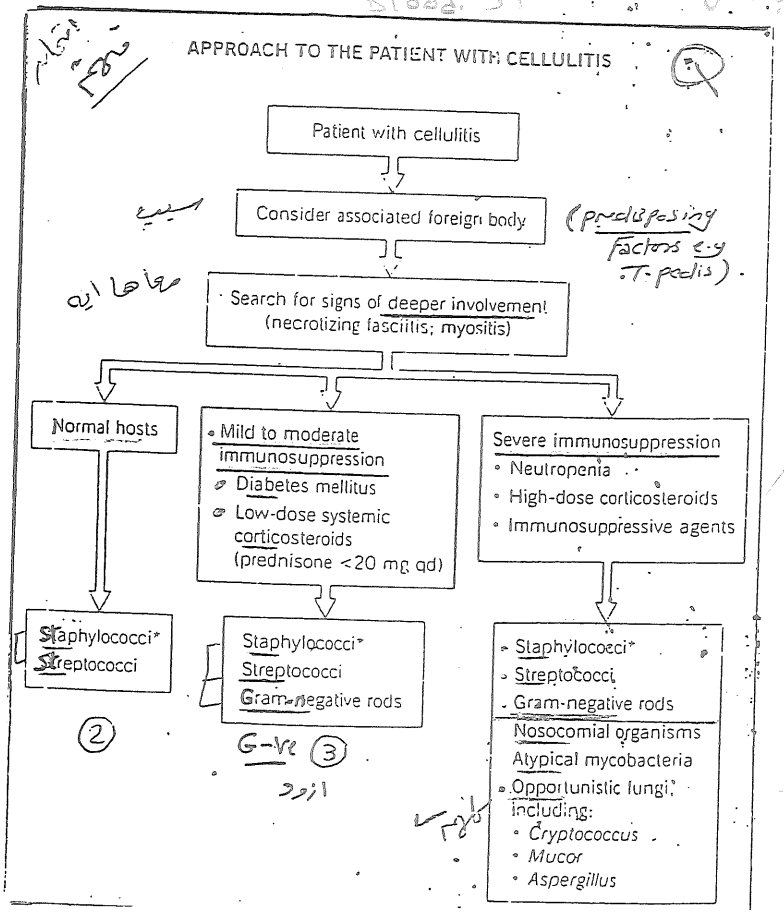
- Impetigo & Ecthyma → See Staph inf.
- Cellulitis & Erysipelas:

Cellulitis

- Def → infection of deep dermis & S.C.T Caused most Commonly by GABHS & S. aureus. (Strept > Staph)
- Causative organism: →
  - Most Common → Strept (2/3) & Staph (1/3)
  - Less Common: G-ve bacteria e.g
    - H. influenzae
    - G-Ve organisms
    - Atypical Mycobact.
    - opportunistic fungia (in immunocompromised) < Cryptococcus / Aspergillus
- Route of Infection:-
  - Immuno Competent → Exogenous (Skin break) route
  - Immuno Compromised → Haematogenous.
- Predisposing factors:-
  - Lymphoedema
  - Alcaholism
  - DM
  - IV drug abuse.
  - PVD (Peripheral Vascular Dis.)
  - Lymphatic damage
- T. Pedis.
- Causes of Recurrence:-
  1. T.pedis
  2. obesity
  3. Lymphatic damage
  4. Venous insufficiency

T. pedis is Commonest

Necrosis



CIP

- Systemically: FAHM
- Locally: (1) 4 Cardinal signs of inflamm.
  - Hotness
  - Redness
  - Tenderness
  - Swelling

(2) the lesion has ill defined & (Non) palpable border ← موقع

there (±)

(3) Severe inf. → Vesicles, bullae, pustules & Necrosis (Bullous Cellulitis)

(4) Ascending Lymphangitis & regional L.N may be (+ve)

(5) Site: Commonest Site in

- Adults → lower extremities
- Children → Face & Neck
  - Facial Cellulitis
  - G-ve H. influenza
  - G-ve Ab دجرة
- IV drug Abusers → upper Extremities.

Complications: (rare)

1- GN (if Nephritogenic strept.)
2- Endocarditis.
3- Lymphadenitis.
4- Lymphatic system damage → Recurrent attacks

Pathology:

- mild to mod inflamm. infilt. (mainly (N) & (L))
  Throught dermis & Extend to S.C.T
- Oedema & dilatation of Lymphatics & BVs
  - Specific stain → for organism detection
- Subepid. bullae. (±).

DD:

1- Erysipelas
2. Erysipeloid (Infectious & inflammatory)
3- Pseudo Cellulitis: Inflammatory (Non) infectious) Cellulitis Like lesions.

← برولينيا جزء ٢ (p 1084)

NB: Erysipeloid = pseudo cellulitis

Invs ① WBCs: usually NL or slightly ↑↑

② Blood culture → usually +Ve in Immunocompromised.

③ Need for invs. is:

- **H. influenzae**
  - ↑ WBC (± left shift)
  - +ve Culture (Blood)
- **Children & Immunocompromised**
  - Needle Aspiration
  - Biopsy.

Treatment: ① Mild Cases: at Home ttt by antibiotics (anti strept & staph) for 10ds.
MSSA MRSA

#recurrence

- Elevation
- Bed rest
- Leg Elevation
- Wet dressing to bullae & exudate
- T. pedis ttt Tinea

Antibiotic

② Severe Cases & facial Cellulitis: Hospitalization & "Parenteral Antibiotics."

Best Δ antibiotics:
- Unasyn [Cover GA BHS & MSSA]
- Minocycline or Clida. [Cover MRSA]
- Flagyl [Cover G-Ve]

Clindam (5-10 mg/kg) eg Dalacin C cap

③ Failed response for 1-3 ds: → Culture & Sensitivity
→ Consider MRSA

④ ttt of Recurrent attacks (See below)

⑤ Surgical intervention of: Crepitus, Circumferential or Necrotic.

XX

⑥ NB Avoid NSAIDS: may mask symptoms of Necrotizing infection. Fasciitis

---

NB: Facial Cellulitis Common in:

- Elderly > 50 → staph. or strept.
- Children → H. influenzae B & S. aureus (Commonest)

- Cellulitis d.t:
  - Cat & dog bite → Pasteurella Multocida
  - injury during Water Contact → G-Ve.
  - Infant cellulitis (< 6ms) Neonatal: Consider → Hematogenous route; Group B Strept; Septic focus: osteomyelitis, Arthritis, Kidney, ...
  - Immunocomp. → G-Ve or Fungal
  - Peri Wound Ein < 24 hrs → Clostridium causing

Cellulitis according to Age
Neonate < 6ms
Group B Strept.
Children:
Staph & Strept.
H. influenza
Healthy adult
Strept & Staph
Immunocomp. (mild / Severe)
Infant ⇒ G-Ve

Erysipelas (St Anthony's Fir)

- **Def:** Streptococcal inf. of Whole dermis ± upper S.C.T ± significant lymphatic spread.

- **NB:** Very similar to Cellulitis but differs in:
  - affect ! Whole dermis. (No S.C.T affect)
  - Caused by: Strept. (other organisms are rare)
  - lesion Ch BY:
    - Well defined raised border
    - ± dimpled (Peau d'orange)
    - ass. ē Lymphangitis (streaks)

Chr. Recurrent Cellulitis & Erysip.

- **Note:**

Single attack of Cellulitis & Erysip. → Usually followed By → Recurrent attacks (always.)

(1) ## of predisposing Factors e.g T. pedis, Lymphoedema.

(2) Chr. Antibiotic use e.g
- Long acting Penicillin
- Penicillin G (250 mg bid.)
- Erythromycin (250 mg once or Twice / day) ← For life

if allergic give

DD of Erysipelas Like (Erysipeloid)

Inflammatory like → or Cellulitis Like (pseudoCellulitis)

"Non infectious"

Conditions:

- Erysipeloid of Rosenbach
- Cancer Erysep- Episeloid
- Angioedema ←
- EN
- bites (insect & spider)
- CD ← (Contact Dermatitis)
- Drugs < FDE ← Fixed Drug Eruption.
  - TEN
  - Warfarin Necrosis
- DVT & lipodermatosclerosis ← لو شكينا فيها نعمل Doppler عالرجل
- Sweet's & Wells Synd.
- HZ
- ECM
- FMF
- Inflammatory < Morphea & GA.

NB Group B Streptococcal inf.:

- (25%) of Adults having it as a commensal in Genital & GIT.
- inf. Caused by it ±:
  - Post partum abd. & perineal Erysipelas.
  - Neonatal Sepsis & meningitis
  - → orbital & Facial Cellulitis

Streptococcal intertrigo

under recognized entity,

- usually affect moist intertrigeneous areas (axillae, Neck, groin, antecubital areas & Post auricular) of infants & children (d.t moisture & Friction) ← منتشر واكثر

- Clip: (1) well defined finely red Erythema & ± psoriasiform plaques. (but No Satellites) ← ?? Fungal

(2) Ass ē < Pain / Bad odour (chic) *

organism
- Strept
- (±) Staph / Proteus / mirabilis

DD: other Causes of Intertrigo:

1- Ps ←
2- SD ← Seboric dermatitis
3- Simple (Treated by ↓ Friction & moistures; (intertrigo) but if (No) response → Consider Strept inf).
4- other causes (See fungal inf).

(H) (1) oral penicillin for (10) ds — if No result → Consider G-ve. mixed inf. (proteus)
(2) Topical Antibiotics + weak Cs.

NB: **Perineal Dermatitis = Perianal Cellulitis** (+)
(Streptococcal perianal dis.).

- GABHS
- Age: usually bet. 1 - 8 Ys (usually < 4 Ys)
- Clinically: ◦ itis Dermatitis rather than Cellulitis.
  - ◦ infs usually: preceded by pharyngitis (so always be considered in patients ē Guttate Ps).
  - ◦ perianal Erythema (2-3 cm) around the anal Verge ass. with tenderness → painful defecation → retention, Bloody streaks, Soiling of Clothes.

NB: Penis & Vulva ± affected.

DD → See Perianal pruritus. (or) Napkin Rash.

H → (1) Antibiotics (2-3 ws) → then → perianal swab to detect Nephritogenic Str.
(2) Topical Antibiotics.

Blistering distal Dactylitis

- Age: Typically 2-16 Yrs

CIP: Tense superficial blisters on a tender Erythematous base over the volar fat pad of phalanx of finger or thumb & ± Toe. (± Nail fold digits)

- Organism: Strept or Staph ⇄ Aureus / Epidermidis.
- Tt: (1) incision & drainage (2) Topical antibiotic (3) Systemic antibiotics (prevent New inf or extension of inf).

Toxin mediated strept inf ←

Scarlet Fever (Scarlatin)

- AET: GABHS Erythrogenic toxins A, B & C → DHR
- Age: 1-10 Ys (after 10 Ys; 80% developed Antibodies.)
- Hx: (1) usually: following Tonsillitis or pharyngitis
  (2) may follow Surgical Wounds (surgical scarlet fever)

CIP

- Age: 1-10 Ys
- Hx: Tonsillitis or pharyngitis

Prodromal symptoms →

- FAHM, sore throat, abd. pain & Vomiting
- Rash: start after 1-2 ds; at the Sandy rash ← Neck / Chest / axillae → 4-6 hrs → Involve the Whole Body

CHBY: Tiny papules on Erythematous backgrounds (sunburn ē goose pimples)

أعراض

- Flushed cheeks (Slapped Cheeks) ← كأنه مضروب بالقلم
- Circumoral Pallor
- Tongue: at first white ē bright red papillae → then Beefy (strawberry).

- Pastia's Sign: linear petichial Streaks at axillary, inguinal & antecubital Creases. (Purpuric rash)
- Desquamation: after 1-2 Wks & Continue for 2-6 Wks of ← Hands / Feet (يقشر)

(Isotretinoin) ... dryness of ... (Staph, Strep, Candida)

- Angular Cheilitis → See Candidiasis

Necrotizing Fasciitis

(HIV يأتي في مريض)

- Def: Acute (Streptococcal) Necrotizing inf. involving the Fascia
- Source of inf: 1. De novo
  2. Following Surgery or perforating Trauma or Cellulitis.
- organism: many be involved: → So 2 Types
  - strept. ✓
  - Staph
  - entero cocci
  - Pseudomonas
  - Bacteroides.

  (اهم واكثر strept)
  - Type I → polymicrobial (90%)
  - Type II → streptococcal (70%) = unimicrobial

- CIP.
- 1-2 ds after Entry: → Tense spreading
  - redness, Pain, Oedema → Central patches of (blue-dusky discoloration) with or without Serosanguineous blisters (bullae)
  - Anaesthesia of involved skin is (very Chic)
  - Severe Systemic Toxicity: fever, chills, Malaise, shock & ↑WBCs.
  - 4th-5th d.:
    - purpule areas become Gangrenous (ulcers)

(Cellulitis تبدأ بشكل)

- MR: 20% (in best circumstances) (20-40%)

- !!! → 1. Early surgical intervention

NB Signs that aid in delineating the extent of (deep) involvement include:

1. Hypotension (دليل على severe infection (toxic shock))
2. WBC > 15.4
3. Na serum < 135 mmol/L (Hyponatremia)
4. MRI.

2. IV antibiotics

3. IVIG: ± useful (in) Type II.

④ Streptococcal TSS (Strept. toxic shock like synd.)

Def. Rapidly progressive, often Fatal illness caused by GABHS commonly presented c:

- Fever
- Shock
- Multiorgan Failure
- Soft tissue inf.

→ (M Type 1 & 3)

Etiopathogenesis:

- Source of Entry: unknown ?? (50%) / disruption of Cut. barrier → Streptococcal entry (M Types 1 & 3)
- → release of Exotoxins A & B → shock & Tissue injury by 2 mechanisms:
  1. As Super antigens (bound to MHC II on APCs & Vβ region on T cell R.) → TNFα & IL1
  2. formation of M protein / Fibrinogen Complex.
- NB: IL6 play a Crucial protective role via ↓↓ TNFα

Epidemiology: . Age: 20–50 y.
. Sex: M=F.

C/P:
1. Pain: Severe local pain in extremities is the most common initial symptom with or without (50%) signs of Soft tissue inflamm (4 sign)
2. Violaceous hue, bullae or Necrosis → indicate deeper inf. (Necrotizing fasciitis or Myositis) → Bad Prognos.
3. Non specific flow like Symptoms: Fever, Chills, Myalgia, diarrhoea,

④ Shock & MOF . after 2-3 d.

⑤ Severe complication. may occur:

- RDS
- RF
- DIC
- Death (30-60%) [MR].

Case Definition of Staph TSS (Criteria for Dx)

- Isolation of GABHS from NLLy Sterile site (Blood, CSF & Biopsy).

or

- Isolation from non sterile site (throat, sputum, vagina)

and

- Hypotension: SBP < 90

and

- ≥ 2 of the following Signs:
  - Renal impairment
  - Coagulopathy (PLT < 100.000) DIC
  - Liver impairment
  - RDS
  - ~~Generalized~~ macular Erythema
  - Skin (±) desquamat.
  - Soft tissue Necrosis.

DD
- TSS (Strept. TSS differs from Staph TSS in)
  - older Age 20-50
  - rapid progressive
  - severe
  - +ve Bl Culture (50%)
  - MR 30-60%
  - ⇒ extremity pain.
  - Soft Tissue Necrosis
- SSSS
- Kawasaki
- Early TEN
- RMS

	Staph. TSS	Strept. TSS
• Age	• 15–35	• 20–50 Y.
• Etiology (Source)	• Menestrual & non Menest	• Unknown or Skin break., varicella, Bruises & bullae.
• Pain in Extremities	–	• Common
• Diffuse Macular Eryth.	• Very Common	• less common
• Vesicles & bullae	• rare	• less Common (5%)
• Soft tissue inf.	• rare	• Common
• Hypotension	• 100%	• 100%
• RF.	• Common	• Common
• Blood Culture +ve	• <15%	• >50%
• MR.	• <3%	• 30–60%

Skin manifs are marked in Staph TSS.

(H) [1] Supportive ttt for shock → IV fluids & Vasopressors.

→ [2] Clindamycin: → -- bact toxin, (1st choice)

[3] Early surgical intervention eg drainage, debridement, Facietomy, amputation.

Skin diseases Caused by Coryneform bacteria

- def. { : G+ve
  : non spore Forming
  . Rod shaped.

Skin diseases related to coryneform bacteria

1. AV → propionibacterium acnes & P. granulosum.
2. Erythrasma → C. minutissimum.
3. Trichomycosis axillaris. → C. tenuis
4. Pitted keratolysis.
5. others:
   - cut. ulcer of Cory. diphtheriae
   - JK group. Coryn bact → commensal
   - Arcanobacterium infernum Haemolyticum.
6. shunt tube infect

. Erythrasma

. Def chr. superficial skin inf.
Caused by C. Minutissimum.
(G+ve, non spore forming, Rod shaped)

. Predisposing factors:
. obesity
. DM
. Excessive sweating & maceration.

C/P → 3 Varieties

1. Classical form: (Classic)
   . 2nd most common.
   . at flexures: groin, Interglutteal & inframammary, Axillae, Antecubital
   . patches ch by
     . Well defined
     . Finely scaly
     . pink – brown (Hyperpigmented)
     . slowly spreading

2. Toe webing: →
   . Most common.
   . bet 5th & 4th or 3rd & 4th Toes
   . Scaling, fissuring & maceration.
   . may be confused ē organisms in these ares: (Dermatophytes, Candida, G-ve, staph.au.)

4. Generalized form: (Trunk & extremities): (discaform)

- least common
- Common among middle Aged black women
- Patches (as in Classic form) at trunk & proximal Ext.

(Diagnosis) → W.L Examination: Coral Red Fluorscence (pink-orange) "d.t Coproporphyrin III"

(Treatment)

1. Systemic: Erythromycin 250 mg / 4 times / d for (1 w)
2. Topical:
   - (a) Antifungals ⟨ Azoles, Tolnaftate, Miconazole
   - (b) Antibiotics ⟨ Fucidin, Erythromycin, clindamycin.

"يخف بعد ٢-٣ أيام
مع إسبوع"

([illegible]) **NB** • Causes of Pink fluorscence by W.L:

1. Follicular openings of NL skin of face & Trunk (?? Propionibact).
2. Some Necrotic Tms
3. AV
4. Tongue
5. AN: in groin & axillae.

DD: See DD of T. Cruris.

Trichomycosis Axillaris (Trichomycosis Nodosa)

Def G-act. inf. of Axillary (less commonly pubic hair) Hair by Corynebacterium Tenuis (G+ve, Rod, non spore)

Ch By: presence of yellow, red or black Concretions on Hair shaft.

C I P (3)

1. Concretions: Surrounding the hair shafts → Beaded appearance (yellow, red, Black).
2. Sweating is < Colored → Stain Clothes (Commonest Complaint) (Same Color of Concretions)
   Malodorous.

NB: · DD: 1. "Chromhidrosis" to diff. (by KOH + injected Hair) → "show the bact. in the Concretions" (Corneb.)
2. Beaded Hair (See Hair).

Tt:
1. Clipping of Affected Hair (Dx)
2. Antimicrobials: Erythromycin, Clindamycin & Benzoyl.
3. Anti perspirants: "deo"

Wart (EM 2010) → **Pitted Keratolysis**

· Crateriform variant: no pits but the whole foot under MTP joint

Def. · Superficial skin inf. Caused by Coryn.

· **Causative organisms**: mainly ← Micrococcus (Kytococcus) Sedentarius
Dermatophilus Congolensis
Coryne bact. / Actinomyces / Streptomyces

C I P
1. Minute superficial pits & Erosions in St. Corneum (1-5 mm); usually at pressure area of Sole (Heel & Toes). [d.t Proteases produced by Bact.]
2. Malodour [d.t sulfur products].
3. Hyperhidrosis (Comm but not essential).

Palm ± affected → Collarette rather than pits.

Tt: (Topicals) : 1. Antibiotics
· Fucidin
· Erythromycin
· Clindamycin
· Benzoyl Peroxide

2. Antifungal
· Miconazole
· Clotrimazole
· white Grield

3. Anti-perspirant → deo

Erysipeloid of Rosenbach

Self limiting

- def: Acute bact inf of skin & other organs caused by the microorganism Erysipelothrix Rhusiopathiae (E. insidiosa)
- organism: Gram +ve, non motile, rod shapped, Filament producing. Commensal pathogen in { Mammal, Bird, Fish }
- Risky pt: those dealing with fish or meat of infected animal, poultry or shell fish.

So:
1. Farmers
2. buchers
3. Fishermen
4. Vet. surgeon.

all are at risk.

- CIP: 3 Varieties → localized cut. [Erysipeloid of Rosenbach]
  → Generalized
  → Systemic

A) Localized Cut [Erysipeloid of Rosenbach]

- IP: 3 ds (after inoculation by prick penetration by Fish, mammals or bird bones) → Trauma
- localized to area around the inoculation
- localized, Erythematous bluish patches that expand slowly & have well defined border 2-4ws → Spontaneous resolution
- Commonest area: hand, finger webs, forearms
- ± ass e: Pain, Tenderness, oedema, blistering

H

1) Self limiting e in 2-4ws
2) penicillin 1gm for 5-10ds
3) Erythromycin, Rifampacin, Tetracyclin.

B, why antib. despite it's self limiting ??
→ Prevent dissemination
→ accelerate the healing

B) Generalized (diffuse) cut

- Generalized pink - violaceous lesions e advanced edge
- ± systemic manifs

-ve Blood Culture.

C) Systemic

- ass e: syskmic manifs & Multiple organ affect
- +ve Bl. Culture.

Actinomycosis

Def: Subacute to chronic Bact. Infection Ch. By:

- **clinically**:
  - Suppurating Abscesses
  - Granulomatous inflamm.
  - Sinus formation
  - Sulfur granules.

→ Can affect skin, bone & int. organs → Mycetoma like lesions

- **Caused by**: Actinomyces Israelii. (also A. bovis)
  - Gram +ve
  - Anaerobic or microaerophilic
  - Non acid fast.
  - branching or Filamentous
  - NL inhabitant of — ♂ Mouth, GIT. ♀ genital Tract.

Also (in soil) →

(so inf. occurs by contagious, Endogenous spread).

- **Clinical Features** (Types)
  1. Cervicofacial (50-70%)
  2. Thoracic (Pulmonary) (15-20%)
  3. Abdominal (10-20%)
  4. primary Cut. (Uncommon)
  5. Pelvic
  6. Lacrimal

- **Epidemiology**
  - **Age**: any age but Commonest 20-50 y.
  - **Sex**: ♂ > ♀.

① Cervicofacial Type (Lumpy jaw)

- Most Common type (50-70%)
- Hx & Source of inf:
  - Bad oral hygiene
  - Dental Caries.
  - orofacial injury or procedure → Periodontal Abscess → periostetis & osteomyelitis → spread to skin.
- lesion ch By
  - Site: Mandible > Maxilla
  - Start as bluish area at mandible (jaw angle) → Nodules that's Erythematous, at first Tender Later painless & woody
  - → Formation of Fistulous abscesses that drain (purulent material) with (Chic (yellow) sulfur granules (clumps of bacteria)
  - No ass L.N
  - ± FAHM.
  - ± Extension to < Maxilla / orbit

② Pulmonary Type (Thoracic):

- 2nd most Common (15-20%)
- Hx & Source:
  - Recurrent aspiration of infected oral material (Epilepsy).
- Lesion ch By:
  - pulmonary (Cavities) at lung bases → Chest Symptoms (Cough, dyspnea, ...)
  - Extension: to pleural → Chest skin → multiple draining Sinuses & Pleurocut. Fistulae.

③ Gastero intestinal Type:

- less Common (10-20%)
- Hx & Source
  - may occur Spontaneous or Following inflammatory Bowel disease or Surgical procedure or ingest?

of F.B (Fish or chicken bone).

. CIP: . Non specific constitutional manifs.
. Manifs of appendicitis.
. Granulomatous affection of Bowel → appendicular mass → Spread to the skin.

Commonest areas → appendix, Caecum

. Extension: . liver → jaundice
. Abd. wall → skin lesion
. ovaries
. Kidneys.

(4) Pelvic Type:

. History of IUCD.
. lower abd discomfort, menorrhagia
. pelvic mass.
→ No Cut. lesions.

Diagnosis

Sulfur granules
. 1-2 mm
. Yellow
. adherent to gauze dressing.
Mic: Narrow bacillary forms & Elongated Hyphae occasional branching.

. Culture (difficult)
"Heart-brain Blood inf. agar" → . Anaerobic . Enriched at 37 °C for 2-4 ds
→ white glistening Streg. Colonies.

Histopath. (below.)

. Pathology:
. at first → Suppurative (intense Neutrophilic infiltrate)
. Later → granulomatous
Center: Abscess with "granules"
Periphery: . Histiocytes . Epithelioid cells . Giant cells

Granules ch' BY:

- at low magnification → Cauliflower like (Branching filaments)

- at higher magnification → delicate branching filaments at the periphery of ω show Eosinophilic Clubs composed of Immunoglobulins (Splendor_Hoeppli phenomenon). they resemble ray, hence the Name (Ray fungus).

Other Invs:

- CBC : anemia & leukocytosis
- ESR : ↑
- CRP : ↑
- CXR
- CT

##

العلاج

① Penicillin G 10-12 mill. U/d (IV) → surgical Excision → بعدين penicillin 2-5 Mu/d (IM)

② Other antibiotics : . Tetracycline
. Erythromycin
. Chloramphenicol
. Recently : Imipenem / Cilastatin
(Cover actinomyceles & Components Bacteria)
↓
Emditine

شخصية أخرى

Helicobacter Pylori Inf. & Skin diseases

• Def. G-ve, Microaerophilic bacterium that can inhabit various areas of stomach specially the antrum.

• Disease Caused by it:

A. GIT diseases: Gasteritic, PU & Carcinoma

B. Cut. diseases: May have role in:

- AV
- Angioedema & Chr. Urticaria.
- Atopy
- Behcet
- LCV
- Nodular prurigo
- Perioral. Dermatitis
- Rosacea
- SS
- SSc
- Sweet. Synd.

• Diagnosis: 1. H. pylori fecal Ag test.

وسيظل ve- بعد العلاج، ولذا يستخدم للتأكد من العلاج

2. Carbon 13 Urea breath test (UBT)

المريض بيشرب يوريا + Carbon Isotope وبعد فترة بنقيس تركيز ال Carbon Isotope في النفس بيلاقيه زايد

(Urea splitted by H. pylori urease enz.)

3. H. pylori abs (IgG) لا تستخدم لمتابعة فعالية العلاج

4. Antibiogram: in Areas where is resistance to Clarith. & Metronidazole

• Treatment → Triple therapy for 10-14 d.

(O A C)
- Proton pump -- (omeprazole)
- Amoxicillin (if sensitive → Metronidazole)
- Clarithromycin

(B M T)
- Bismuth subsalicylate
- Metronidazole
- Tetracyclines

Borrelia induced skin diseases

- Def- & Introduct → see Lyme dis.

Role in skin diseases

- Direct Etiology
  - Cut. Manifs. of Lyme dis.
    - 1ry ECM
    - Disseminated ECM
    - Lymphocytoma cutis.
    - Acrodermatitis chronica atrophicans.
- Possible Etiology
  - Morphea
  - LSA
  - Jessner Lymphocytic infilt.
  - Parry Romberg Progressive hemifacial Atrophy
  - Shulman synd. (Eosinophilic fasciitis)

- NB ⇒ Types of Sycosis:
  1. Sycosis barbae/vulgaris.
  2. Lupoid (Staph, granulomatous destructive)
  3. Mycotic (Zoophilic Fungi).
  4. Herpetic.

• Role of Super Antigens in Skin diseases (Toxin Mediated skin diseases)

. Def. of Super Ag: Non antigen Toxins (Proteins) Secreted by Staph & Strept. → Stimulate T-Cell, → Secrete Massive amounts of Cytokines → Severe systemic Manifs.

.. Difference bet. Antigen & Superantigen:

Superantigen differs from Antigen in:

1. No need for processing.
2. Not placed on MHC-II (of APC) Grove but placed directly at any place, But
3. Interact directly ē variable region "Vβ" of TCR, (on T cell)
4. More potent stimulat⁻ of T-cells (excite 5-30% of T-Cell Compared to ≃0.01% stim. by Ag) →
   Massive Cytokines release: IL1, IL6, & TNF →
   - Fever
   - Hypotension
   - shock
   - organ damage
   - Skin rash (Scarlatiniform or Morbilliform)
   - PP Erythema & Edema
   - Strawberry Tongue
   - Conjunctival inject⁻.

(Severity of Condit⁻ depends on < Toxin dose, Route, Immunological Status)

NB ① Sulphadizine Cream: if not in therap dose → ↑ toxin product⁻.

② NSAIDs: ↓ Immunity & ↑ toxin product⁻.

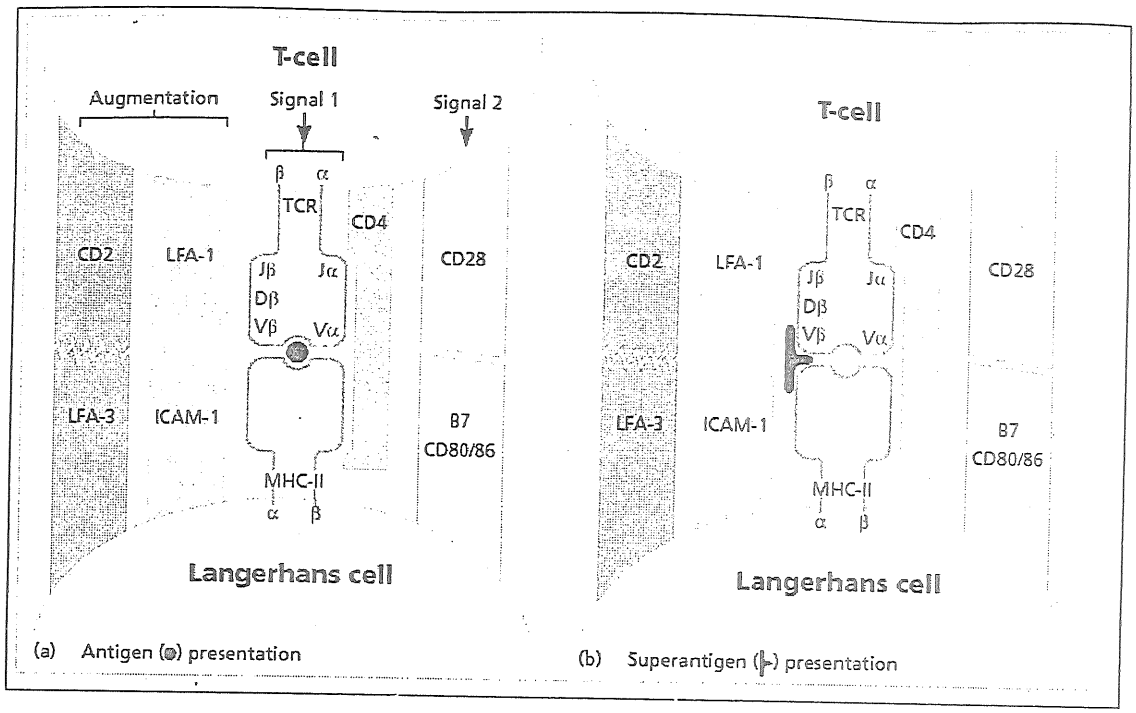


Fig. 2.12 T-lymphocyte activation by (a) antigen and (b) superantigen. When antigen has been processed it is presented on the surface of the Langerhans cell in association with major histocompatibility complex (MHC) Class II. The complex formation that takes place between the antigen, MHC Class II and T-cell receptor (TCR) provides signal 1, which is enhanced by the coupling of CD4 with the MHC molecule. A second signal for T-cell activation is provided by the interaction between the costimulatory molecules CD28 (T cell) and B7 (Langerhans cell). CD2/LFA-3 and LFA-1/ICAM-1 adhesion augment the response to signals 1 and 2. Superantigen interacts with the TCR Vβ and MHC Class II without processing, binding outside the normal antigen binding site. Activated T cells secrete many cytokines, including IL-1, IL-8 and interferon-γ, which promote inflammation (Fig. 2.13).

- Toxins (Superantigens) Mediated Skin diseases:
  - SSSS
  - TSS (staph & strept Types)
  - (HL) — Recurrent Toxin Mediated perineal Erythema
  - Red Synd. (recalcitrant Erythematous & desquamative Synd).
  - Scarlet Fever
  - Necrotizing Fasciitis
  - Kawasaki dis — (Strept)
  - Psoriasis
  - Atopy (staph).
  - Food Poisoning.

Pseudomonas Skin inf.

(Andrews) · Emed · DNNZ.

1. Gram -ve folliculitis
2. Hot tub folliculitis
3. Toe-web infection
4. Ecthyma Gangrenosum
5. Green Nail synd.
6. External Otitis
7. Blastomycosis like pyoderma

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1. Gram -ve folliculitis → See Acne vulgaris.

2. Hot-tub folliculitis (Pseudomonas folliculitis):

Spa, pool folliculitis

CIP: folliculitis or Dermatitis

- Pruritic follicular, Maculopapular, vesicular or pustular lesions usually at sides of Trunk, axillae, buttocks & proximal Extremities [spare Face, Neck, Palms & Soles]
- usually (1–4) days after bathing in Hot < Jacuzzi / Tub / Public swimming pool ... "the High temp → ↓ Free chlorine (despite NL total Chlorine level) → Colonizat⁻ by Pseud."

EMed 2009

predisposing factors
1. Minor Trauma
2. Hot water
3. pH > 7.8
4. low chlorine < 0.5 gm/ml

entry → · Route of inf. < H. follicles / Skin break.

- Colonizat⁻ of bathing suit- may occur so may transmit inf. « bathing suit folliculitis ».
- ± ass. with systemic manifs.
- Rx « Self limiting in 1–2 wks »
  1. Prophylactic:
     - water filteration, automatic chlorination, frequent changing.
     - Keep chlorine (Free) at 1 ppm level

- Keep Water PH at 7.2-7.3

Bad. usually resistant to Topical antib.

← (2) Active ##: (if there is systemic manifest or Prolonged dis.):

- Fluroquinolones
- 3rd generation Cephalosporines.

NB Pseudomonas Hot foot Synd: reported in children, ch BY: painful, Erythematous, Planter Nodules or pustules after wading in a Community pool whose Floor was Coated ē abrasive grit.

DD: Neutrophilic Eccrine Hidradenitis (إلتهاب الغدد العرقية)

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3. Toe Web Gram -ve inf.:

interdigital T. pedis (usually) start as dermatophyte infection only (dermatophytosis Simplex); then with Pseudomonas or G-ve inf. → dermatophytosis Complex.

- ↑ inflammation
- Maceration
- denudation ē purulent serous discharge.
- marked, Edema & Erythema of Surrounding tissues
- also ±: Painful Calf Nodules that recur 1-2 ws.

(1) Dermatophytosis Simplex (Scaling & Peeling): → Topical Antifungal.

(2) Dermatophytosis Complex (wide spread Erythema, Edema & denudation)

→ Anti Pseudomonal Antib.:

- 3rd generation ceph.
- Fluroquinolones.

4. Ecthyma Gangrenosum

- Risk Factors (Gravely ill Patients): → (it's ass. with Pseud. bacteremia)
  - leukemia
  - Severe burn
  - Malignancy
  - Neutropenia or pancytopenia.
  - Severe chronic dis.

- CIP: ⇐ Tense Vesicles or pustules that surrounded by Narrow pink-Violaceous Halo ». → Hyic → rupture → round ulcers with Necrotic black Center.

Hyic Pustule surr. by Erythem. → 12 hrs. → Necrotic gangrenous ulcer surr. by Erythem.

- Site: perineal > gluteal > axillae > Extremities > Trunk
- Healthy infants may develop lesions in perineal area after antibiotic therapy in conjunction with maceration of diaper area.

- Diagnosis:
  1. clinically: → classic pustule → ulcer.
  2. Vesicle Aspirate & Culture → G-ve bacilli
  3. Blood culture (if ass. Septicemia).
  4. Skin Biopsy → 2 Biopsies For < Histopath. / culture.

Treatment

1. Early institution of IV antibiotics
   Aminoglycosides + Antipseudomonal penicillin (Piperacillin).
   +
   GMCSF (adjuvant ## to ++ Myeloid precursors in pts with neutropenia).
2. If failed Medical → Surgical debridement.

7. Blastomycosis like pyoderma

- large verrucous plaques & elevated borders & Multiple pustules may occur as a chr. vegetating inf.
- Most patient may have Immunosuppression (< local or systemic)
- Causative bact. ± :
  - Pseudomonas
  - S. aureus
  - Strept cocci
  - E. coli

Others

- Green foot synd
- Hot foot synd.
- *Septicaemia
- 2ry inf. of wounds, Ulcers & Burns.
- Periumbilical inf. of infancy → Foul smelling discharge.

4. Ecthyma Gangrenosum

- Risk Factors (Gravely ill patients): → (its ass. with pseud. bacteremia)
  - leukemia
  - Severe burn
  - Malignancy
  - Neutropenia or pancytopenia.
  - Severe chronic dis.

- CIP: ✱ Tense vesicles or pustules that surrounded by Narrow pink-Violaceous Halo ». → Hyic → rupture → round ulcers with Necrotic Black Center

Hyic Pustule surr. by Erythem. → 12 hrs. → Necrotic gangrenous ulcer surr. by Erythem.

- Site: perineal > gluteal > axillae > Extremities > Trunk

- Healthy infants may develop lesions in perineal area after antibiotic therapy in conjuct è macerat^ of diaper area.

- Diagnosis
  1. clinically: → Classic Pustule → ulcer.
  2. Vesicle Aspirat^ & Culture → G-ve bacilli
  3. Blood culture (if ass. Septicemia).
  4. SKIN Biopsy → 2 Biopsies For < Histopath. culture.

Treatment

1. Early institution of IV antibiotics
   Aminoglycosides + Antipseudomonal penicillin (Piperacillin).
   ±
   GMCSF (adjuvant # to ++ Myeloid precursors in pts ē Neutropenia).
2. If failed Medical → Surgical debridement.

5. Green Nail Synd. & Green Foot Synd.

- Green Nail: onycholysis + greenish discolorat° (in the separated areas)
  (in Chr. water users)

Green color is d/t pyoverdin

Tt: ① Acetic acid 1:5 Soak

② Trimming of the onycholytic areas + Neosporin Sol.

Gentamycin ± / Neomycin (-ve)
Silver Sulfadiazine ± effective / Mupirocin ±

- Green Foot Synd: d/t Colonizat° of rubber Sports shoes wit. P. aurginosa

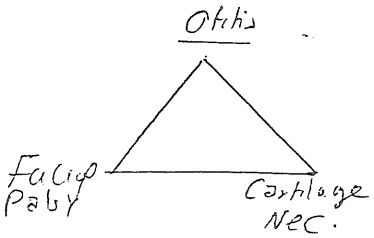
6. External Otitis:

- Common in Swimmers
- CP: Erythema, Edema, Swelling & Pain.
- Tt ① Prophylactic: Otic Domeboro Sol. (acetic acid + Alum. acetate) — antibact + antifungal
  ② Active Tt: acetic acid + Cs Sol.
- DD:

① CD: but Dermatitis may extend down the side of neck in pattern suggesting drainage of suspension.

② My Otitis Externa: Severe type affecting Immunosuppressed ch/ BY Severe Erythema, Edema, Pain & Purulence & ± ass. w Facial palsy & Cartilage Necrosis.

Tt: Quinolones (4-6 wks)



③ Commercial Ear piercing of upper ear cartilage
± → Pseudom. & deformity.

Pyodermatitis / Pyoderma Vegetans (PV)

PV. of Hallopeau. — Blastomycosis like Pyoderma.. (Bact.) — Staph — Immuno Uncomp. — تسمى باسم

- Def. disorder ch. By large Verrucous plaques ē elevated Borders & Multiple pustules.

- Etiopath: ??... Bact. Inf + Immuno Suppression
  - Bact. Inf → Staph & Strept But ± Fungal
  - → Face & Flexures.
  - Immuno Suppression: HIV, Leuk. & Lymph., U. Colitis, Alcoholism.

.. DD

(1) Vegetans dis — Pemphigus Veget., Pemphigoid Veg.

(2) Botrymycosis: Bact. Inf. in Immuno. Compromised Individual.
  - Staph & E. Coli
  - Immun. Supp.
  - granules similar to Actinomyc.

= المعنى بفترهم جسم كتل التقرحات

"Basophilic grs. Similar to that of Actinomycosis.

(3) Deep fungal inf. — Phycomycosis, Coccidiodomycosis.

(4) Others: Bromo / Iodo derma, Mycobact. Inf., Giant KA & PG.

(5) Pyodermatitis - pyostomatitis Vegetans: as Py. veget. but — affect Mucous. Sites (oral & Flexural), Ass. ē U. Colitis.

± can ē IBD, cut PG, (ulcerative Veget.) oral PG → (6) Pyostomatitis Vegetans, لازم

- HP (2)
  - (i). Pseudoepitheliomatous Hyperplasia
  - (ii) Epid & dermal Abscesses
  - Staph is Isolated.

TTT معنى الأدوية

(i). Antibiotics + local — Curettage, Alum. Subacetate dressing

(ii) 20% human Albumin (100 ml) Infusion For 5 ds → ĉ 40 mg Cs For month.

(iii) Correct= of Immuno Suppression.

Pyoderma Vegetans

(تشبه Botrymycosis & Actinomycosis)

- Inf. ch by → pustules, verrucous plaques, ulcerations
- Etiopath: Inf. + Immuno suppression
  - Inf.: Staph, Strept, Trichophyton mentagrophytes
  - Immuno suppression: HIV, Ulcerative Colitis → Pyostomatitis Pyodermatitis Vegetans, Leukemia, LE Nephritis, Alcoholism & malnutrition

H.S may cause react (Type III) → Pyod. Veget.

- Pt. ē Pyodermatitis pyostomatitis + U. Colitis has Anti BP 230 KD Antibodies
- C/P: plaques of → pustules, verrucous, ulceration; may affect any area even flexural area (DD from pemphigus Veg.)
- HP: Pseudoepitheliomatous Hyperplasia + Abscesses in → dermis & Hyperplastic epid.

- TTT:
  - Etiology (Suppression)
  - Antibiotics: Ceftriaxone; others Human Albumin + MPA
  - Wound care: Curettage, Alum. Subacetate wash, Zn oxide, ILCs, (disodium chromoglycate)

Healing ذلك PG ē ... Leg. ulcers.

Botrymycosis

(Bunch of grapes) (chr. inf.)

may be related to:
1. Pyoderma Vegetans ✓
2. it + Actinomycosis → تعرف كـ اسم Pseudo Bacteriosis
3. Isolated entity ✓

- Etiopath: Traum + Inf. + Immuno def.
  - Inf.: Staph., Pseudomonas, E. Coli
- inf. may affect: Skin, S.C.T, Ms, Bone, Int. organs (e.g. lung)
- C/P:
  1. S.C Nodules
  2. large verrucous
  3. ulcers
  4. sinuses → pus ē sulphur or yellow granules (as Actinomycosis)

(DDS) Mycetoma: granules
- Supperative inflam.
- Bodies: Center: Basophilic (Bact. debris); Periphery: Homogeneous, eosinophilic, hyaline, 2ry to Host Igs (Splendore phenom).

PAS stain, Gram,

TTT. Surgical debridement